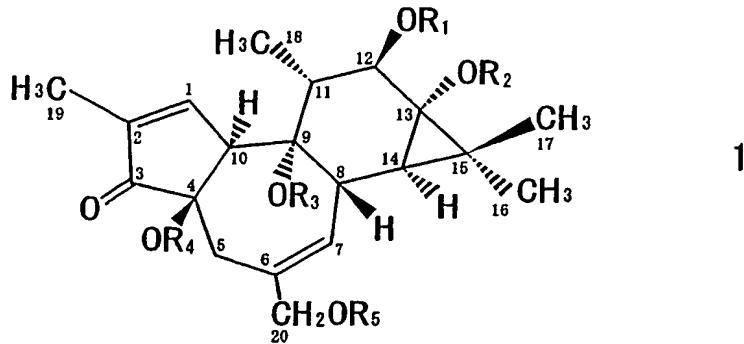


## CLAIMS

1. An antiviral preparation characterized by comprising as an active ingredient, at least a phorbol derivative of formula 1:



wherein R<sub>1</sub> is a group of -(CH<sub>2</sub>)<sub>a</sub>X(CH<sub>2</sub>)<sub>b</sub>CH<sub>3</sub> wherein X is O or S, a is a number of 1 to 3, and b is a number of 0 to 5, a group of -(CH<sub>2</sub>)<sub>c</sub>X(CH<sub>2</sub>)<sub>d</sub>YCH<sub>3</sub> wherein X and Y are O or S, c is a number of 1 to 3, and d is a number of 1 to 5, a group of -CO(CH<sub>2</sub>)<sub>e</sub>CH<sub>3</sub> wherein e is a number of 0 to 12, or a group of -(CH<sub>2</sub>)<sub>f</sub>CH<sub>3</sub> wherein f is a number of 0 to 5,

R<sub>2</sub> is a group of -CO(CH<sub>2</sub>)<sub>n</sub>CH<sub>3</sub> wherein n is a number of 3 to 12, and

R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are independently of one another, hydrogen atom, or an aliphatic or aromatic carboxylic acid residue, and

having a specific safety index S.I. = CC<sub>50</sub>/EC<sub>50</sub> of 10 or more wherein EC<sub>50</sub> means a concentration at which HIV-1 induced cytopathogenic effect (CPE) in MT-4 cell is inhibited by 50%, and CC<sub>50</sub> means a concentration at which survival of MT-4 cell in a cell proliferation test is reduced by 50%.

2. The antiviral preparation according to claim 1, wherein R<sub>1</sub> in formula 1 is a group of-(CH<sub>2</sub>)<sub>a</sub>X(CH<sub>2</sub>)<sub>b</sub>CH<sub>3</sub> wherein X is O or S, a is a number of 1 to 3, and b is a number of 0 to 5.

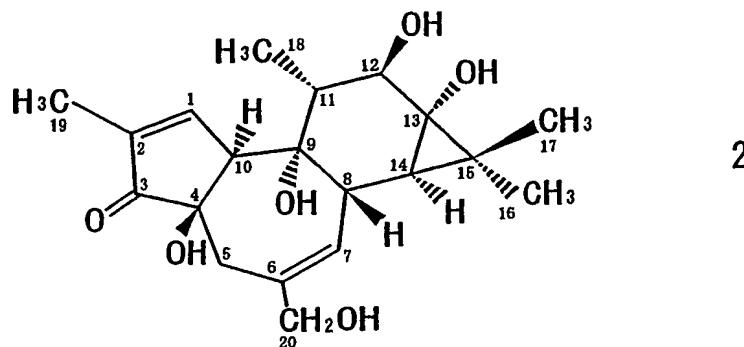
3. The antiviral preparation according to claim 1, wherein R<sub>1</sub> in formula 1 is a group of -(CH<sub>2</sub>)<sub>c</sub>X(CH<sub>2</sub>)<sub>d</sub>YCH<sub>3</sub> wherein X and Y are O or S, c is a number of 1 to 3, and d is a number of 1 to 5.

4. The antiviral preparation according to claim 1, wherein R<sub>1</sub> in formula 1 is a group of -CO(CH<sub>2</sub>)<sub>e</sub>CH<sub>3</sub> wherein e is a number of 0 to 12.

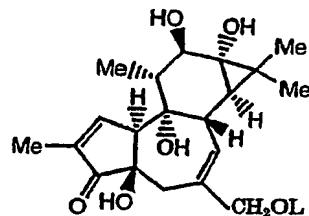
5. The antiviral preparation according to claim 1, wherein R, in formula 1 is a group of  $-(CH_2)_f CH_3$  wherein f is a number of 0 to 5.

6. A process for producing the phorbol derivative of formula 1 according to claim 1, comprising:

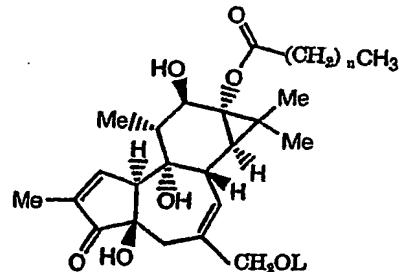
converting a group of  $-CH_2OH$  on a naturally occurring or synthetic intermediate phorbol of formula 2:



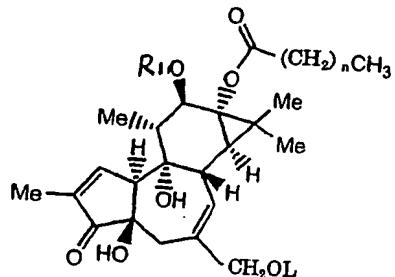
into a group of  $-CH_2OL$  wherein L is a protective group, to produce a compound of formula



reacting the compound with a compound of  $CH_3(CH_2)_nCOCl$  wherein n is the same meaning as the definition in claim 1, to produce a compound of formula



reacting the compound with a compound of  $R_1Cl$  wherein  $R_1$  is the same meaning as the definition in claim 1, to produce a compound of formula



further converting a group of -CH<sub>2</sub>OL on the resulting compound into a group of -CH<sub>2</sub>OH.

7. An anti-HIV virus preparation comprising at least one of phorbol derivatives of formula 1 according to claim 1, and at least one of other agents having anti-HIV effect.
8. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is a reverse transcriptase inhibitor.
9. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that inhibits an integration of DNA mediated by an integrase.
10. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that suppresses a transcription of provirus.
11. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that inhibits a synthesis of core protein mediated by a protease.
12. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that suppresses an assembly and packaging of core proteins.
13. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that suppresses an aggregation of core proteins and extra-shell proteins.

14. The anti-HIV virus preparation according to claim 7, characterized in that the other agent having anti-HIV effect is an agent that suppresses a maturity of infectious virus particles released and escaped from cell membrane.